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## Department of Toxic Substances Control

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Alan C. Lloyd, Ph.D.  
Agency Secretary  
Cal/EPA

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P.O. Box 806  
Sacramento, California 95812-0806



Arnold Schwarzenegger  
Governor

April 18, 2005

Ms. Rosanne Harding  
Policy Analyst  
California Dental Association  
1201 "K" Street Mall  
P.O. Box 13749  
Sacramento, California 95853-4749

Dear Ms. Harding:

Thank you for your recent letter asking for clarification of the status of the Chemgon<sup>®</sup> product for solidifying and disposing of silver-containing fixers and developers. California hazardous waste law completely supports your organization's policy on capturing and recycling silver from the waste fixer and developer. Below, I have summarized the status of the Chemgon<sup>®</sup> product under California law, and presented some suggested options for dentists to manage small amounts of spent fixer and developer.

It is not possible to use silver solution solidification and encapsulation technologies legally in California without a Standardized Hazardous Waste Facility Permit. The law does not allow simple self-implementing authorization for encapsulating and disposing of silver because silver is one of the most recyclable materials in common use. Silver is removed from photographic fixer solutions, and the solutions are regenerated for reuse. This is quite preferable to landfill disposal. Note that silver is a "precious metal" - the name is an indication of why so many people recycle silver wastes.

The Chemgon<sup>®</sup> encapsulated silver has not, to the Department of Toxic Substances Control's knowledge, been tested for long term stability in landfills, using tests required under the hazardous waste regulations. Chemgon<sup>®</sup> encapsulated silver cannot be disposed in any landfill by generators who generate more than 100 kilograms of hazardous wastes in any month without being tested for biodegradability using these tests set forth in California Code of Regulations, title 22, section 66264.314.

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However, there are many alternatives to landfilling spent fixer solutions.

- Most individual dental and medical practitioners qualify as small quantity commercial sources and can take silver wastes to household hazardous waste facilities. The household hazardous waste facilities then bulk the waste and send it to a recycler.
- Most x-ray service companies take spent fixer (and waste film) when delivering new fixer and bulk it. They then recover the silver from the bulked solutions with safe and simple technologies. These services are found in all major metropolitan areas and in California the city of Los Angeles, leads the list of providers.
- There are simple and effective units that can remove silver from fixer solutions right onsite, allowing sewer disposal of the fixer. Onsite recovered silver can then be sold to refiners that smelt the recovered silver into ingots. These units are best for multiple practices from small to large clinics.

I hope that this letter has answered your questions about the legality of using Chemgon<sup>®</sup> to encapsulate silver in photographic fixer. Please communicate this information to your membership to ensure that they are operating in compliance with the law. If you have any further questions, please contact Mr. Michael Horner, Senior Hazardous Substances Scientist, Regulatory and Technical Development Branch, at (916) 322-7889 or via email at [mhorner@dtsc.ca.gov](mailto:mhorner@dtsc.ca.gov).

Sincerely,

A handwritten signature in black ink, appearing to be 'B.B. Blevins', with a long horizontal line extending to the right.

B.B. Blevins  
Director

cc: Mr. Majid Sadeghi  
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